

LXI.—On a Collection of Hymenopterous Insects from the Philippines. By Lieut.-Col. C. T. BINGHAM, F.Z.S.

A SMALL collection of Hymenopterous insects sent by Mr. Whitehead from Cape Engano, Luzon, in the Philippines, has been kindly entrusted to me by Mr. Ogilvie Grant. The collection contains sixty-seven specimens belonging to twenty-seven species, a list of which is here given.

Fam. *Apidæ*, Leach.

1. *Xylocapa bryorum*, Fabricius.

Apis bryorum, Fabr. Ent. Syst. ii. p. 321. 28, ♂.

Bombus bryorum, Fabr. Syst. Piez. p. 348. 28.

Xylocapa dimidiata, Lepel. Hym. ii. p. 199. 44, ♀; Smith, Cat. Hym. Ins. B. M. ii. p. 357. 66; Journ. Linn. Soc. xi. (1867) p. 394. 25.

Xylocapa bryorum, Smith, Mon. Gen. *Xylocapa*, Tr. Ent. Soc. (1874) pt. ii. p. 275. 59, ♂ ♀; Bingham, Journ. Bomb. Nat. Hist. Soc. v. (1890) p. 251. 25.

Two females in the collection which agree with Lepeletier de St.-Fargeau's description of *X. dimidiata*, which species, I think, there is no doubt is the female of the *Apis bryorum* of Fabricius. The present species occurs in South Tenasserim, where I have taken both sexes.

2. *Xylocapa collaris*, Lepeletier.

Xylocapa collaris, Lepel. Hym. ii. p. 189. 26, ♀; Smith, Cat. Hym.

Ins. B. M. ii. p. 353. 47; Journ. Linn. Soc. xi. (1867) p. 393. 11; Mon. Gen. *Xylocapa*, Tr. Ent. Soc. (1874) pt. ii. p. 270. 46, ♂ ♀.

Xylocapa Dejeanii, Lepel. Hym. ii. p. 209. 59, ♂; Smith, Cat. Hym. Ins. B. M. ii. p. 357. 62; Journ. Linn. Soc. xi. (1867) p. 394. 21.

One specimen in collection (a male), which has the clypeus of a curious reddish tint instead of yellowish white. Lepeletier's two species were united on the authority of M. Mouhot, who forwarded the sexes from Siam. The species is common in Burma and Tenasserim, and extends to India and Ceylon. I have taken a long series of both sexes near Maulmain.

3. *Megachile atrata*, Smith.

Megachile atrata, Smith, Cat. Hym. Ins. B. M. i. p. 182. 112, ♀; Journ.

Linn. Soc. xi. (1867) p. 388. 15; Bingham, Journ. Bomb. Nat. Hist. Soc. v. (1890) p. 247. 19.

One female in the collection of the variety noted by Smith as having yellowish wings. This species was originally described from the Philippines.

4. *Megachile lachesis*, Smith.

Megachile lachesis, Smith, Proc. Linn. Soc. v. (1861) p. 133. 2, ♀;
Journ. Linn. Soc. xi. (1867) p. 389. 37.

One female in collection.

5. *Megachile clotho*, Smith.

Megachile clotho, Smith, Proc. Linn. Soc. v. (1861) p. 134. 3, ♀;
Journ. Linn. Soc. xi. (1867) p. 389. 38.

One female in collection. The last two species were originally described from Batchian.

6. *Crocisa nitidula*, Fabricius.

Melecta nitidula, Fabr. Syst. Piez. p. 386. 2.

Crocisa nitidula, Latr. Gen. Crust. Ins. iv. p. 172; Lepel. Hym. ii. p. 448. 1, ♂ ♀; Smith, Cat. Hym. Ins. ii. p. 277. 3; Journ. Linn. Soc. xi. (1867) p. 390. 1.

Three females and one male in collection, typical specimens, with very brilliant colouring.

7. *Anthophora zonata*, Linnaeus.

Apis zonata, Linn. Syst. Nat. i. p. 955. 19.

Andrena zonata, Fabr. Ent. Syst. ii. p. 311. 19.

Megilla zonata, Fabr. Syst. Piez. p. 331. 13.

Anthophora zonata, Lepel. Hym. ii. p. 25. 1; Smith, Cat. Hym. Ins. B. M. ii. p. 336. 90; Journ. Linn. Soc. xi. (1867) p. 392. 1; Sich. Suppl. Hym. 'Novara' Exp. p. 153.

Four typical females in the collection.

8. *Cælixys philippensis*, sp. n.

♂. L. 12 millim., exp. 21 millim.

Black; head and thorax coarsely punctured, the abdomen finely punctured, the first segment with short snow-white pubescence above; the anterior wings dark fuscous, with purple iridescence; the posterior wings clear hyaline, their apex faintly fuscous. Head broad, as broad as the thorax; the mandibles black and shining, their base exteriorly slightly rugose; the clypeus somewhat convex, its anterior margin rounded; the front of the face, the clypeus, and behind the eyes covered with short white pubescence; the vertex coarsely punctured and shining; the antennæ piceous. Thorax coarsely punctured; the scutellum arched posteriorly and carrying a short conical tooth on each side; the metathorax covered with a thin white pubescence; the legs finely punctured, the tarsi piceous; the anterior wings dark fuscous

with a purple iridescence; posterior wings clear hyaline, their apex fuscous. Abdomen closely and rather more finely punctured than the thorax, the first segment entirely covered with short white pubescence above; the rest of the segments with a thin line, broadening laterally, of white pubescence at their bases; the fourth and fifth segments with a deeply impressed transverse line before their posterior margins, beyond which the margins of the segments are smooth and shining; the penultimate segment has a short conical tooth on each side, and the apical segment six rather longer spines or teeth, two laterally and four at the apex; beneath, the segments of the abdomen have a line of white pubescence at their basal margins, and the extreme apex a tuft of rather rigid white hairs, tinged fulvous.

Somewhat resembles *C. fuscipennis*, Smith, in the colour of the wings, which, however, are much darker in the present species. It also differs entirely from Smith's species in the form of the apical segment and in having the basal segment of the abdomen above covered with snow-white pubescence.

Fam. Mutillidæ, Leach.

9. *Mutilla nigra*, Smith.

Mutilla nigra, Smith, Proc. Linn. Soc. iii. p. 151. 4, ♂; Journ. Linn. Soc. xi. (1867) p. 339. 54, ♂.

One specimen in the collection.

10. *Mutilla suspiciosa*, Smith.

Mutilla suspiciosa, Smith, Proc. Linn. Soc. ii. p. 84. 5, ♂; Journ. Linn. Soc. xi. (1867) p. 339. 41.

Eight males and three females. One pair taken *in cop.* One specimen (a male) differs considerably from the rest; it may represent a distinct species. The wings are a much darker brown, and only the basal segment and the base below and sides of the second segment of the abdomen are red, the remainder of the abdomen being black and shining. The form and sculpturing of the thorax, however, do not differ from those of *suspiciosa*, and so I have provisionally identified it with that species.

Smith described the male. The female has the head and abdomen black, the thorax red. The head is closely and not very finely punctured, and has a little silvery pubescence between the antennæ. The thorax is coarsely punctured, compressed and slightly emarginate at the sides; the legs are black, with the calcaria and pubescence fulvous. The abdo-

men black and very finely and closely punctured; the second segment has two oval silvery spots, one on either side, on its dorsal surface; the third is covered with silvery pubescence above, and the fifth has a fringe on its posterior margin of stiff hairs of a somewhat yellower tint. Below, the segments are fringed with silvery hairs.

Fam. Scoliidæ, Leach.

11. *Liacos (Triliacos) analis*, Fabricius.

Scolia analis, Fabr. Syst. Piez. p. 245. 37.

Scolia dimidiata, Guér. Voy. Coq. ii. p. 247, ♂; Burm. Scol. p. 15. 2,

♂; Smith, Cat. Hym. Ins. B. M. pt. iii. p. 114. 138.

Campsomeris Urvilli, Lepel. Hym. iii. p. 503. 12, ♂.

Scolia Urvilli, Smith, Cat. Hym. Ins. B. M. pt. iii. p. 114. 138.

Scolia penangensis, Sauss. Mém. Hym. p. 39. 17 (♀ var.).

Liacos (Triliacos) analis, Sauss. & Sich. Cat. Spec. Gen. Scol. p. 133. 1,

♂ & ♀; Cam. Hym. Orient., Mem. & Proc. Manch. Lit. & Phil. Soc. ser. 4, vol. iv. pt. iv. p. 1. 1.

Two specimens (a male and female), typical. This species occurs also in India and Burma.

12. *Scolia (Triscolia) Whiteheadii*, sp. n.

♀. L. 49 millim., exp. 86 millim.

♂. L. 41 millim., exp. 80 millim.

Female.—Black, with black pubescence; a crown-shaped mark on the front and vertex of the head above the antennæ; the scutellum and postscutellum yellow; the head, the mesothorax, and the abdomen sparsely punctured, the last black, shining, and immaculate; the pro- and metathorax more closely and coarsely punctured, the latter with sparse black pubescence; the sides of the pronotum produced laterally into well-marked rather acute tubercles or cones.

Male.—Resembles the female, but is more slender in form, with longer antennæ and thicker pubescence. It wants the yellow on the head, and the lateral angles of the pronotum are not produced.

The above brief description sufficiently characterizes this well-marked species. It is closest to *S. procer*, Illig., from which it differs in the shape of the prothorax and the sculpturing of the thorax generally. It is also quite distinct from *Scolia frontalis*, Saussure (*coronata*, Smith). I have ventured to name it after Mr. Whitehead, its discoverer.

13. *Elis (Dielis) aurulenta*, Smith.

Scolia aurulenta, Smith, Cat. Hym. Ins. B. M. pt. iii. p. 102. 80, ♀.

Elis (Dielis) aurulenta, Sauss. & Sich. Cat. Gen. Spec. Scol. p. 206. 221;

Smith, Journ. Linn. Soc. xi. (1867) p. 349. 9; Cam. Hym. Orient., Mem. & Proc. Manch. Lit. & Phil. Soc. ser. 4, vol. iv. pt. iv. p. 16. 24.

One very richly coloured female in collection, and a male which I provisionally assign to this species. This latter is not *E. agilis*, Smith, which it somewhat resembles in its slender form, nor is it *E. iris*, Lepel., nor *Campsomeris ceylonica*, Kirby, with specimens (males) of which in the collection of the British Museum I have compared it.

Fam. Pompilidæ, Leach.

14. *Macromeris violacea*, Lepeletier.

Macromeris violacea, Lepel., Guér. Mag. Zool. xiv. (1831) pl. xxx. fig. 1, ♂; Hym. iii. p. 464. 2; Smith, Cat. Hym. Ins. B. M. pt. iii. p. 181. 2; Journ. Linn. Soc. xi. (1867) p. 356. 1; Kohl. Gatt. der Pomp., Verh. der. k. k. zool.-bot. ges. Wien, 1884, p. 41. 1; Cam. Hym. Orient., Mem. & Proc. Manch. Lit. & Phil. Soc. ser. 4, vol. iv. pt. iii. p. 435. 1; Bingham Journ. Bomb. Nat. Hist. Soc. viii. (1893) p. 367. 1.

One specimen in collection.

15. *Salius (Priocnemis) peregrinus*, Smith.

Priocnemis peregrinus, Smith, Tr. Ent. Soc. (1875) pt. i. p. 37, ♂ ♀; Journ. Asiat. Soc. of Beng. vol. xlvii. (1878) pt. ii. p. 168. 3.
Salius peregrinus, Cam. Hym. Orient., Mem. & Proc. Manch. Lit. & Phil. Soc. ser. 4, vol. iv. pt. iii. p. 452. 46; Bingham Journ. Bomb. Nat. Hist. Soc. vol. viii. (1893) p. 375. 20.

Three males and six females in the collection, which correspond exactly with Smith's description. In the British Museum collection at South Kensington there is a *Salius* from Sumatra labelled *bipartitus*, Smith, the label being, as I am informed, in the late Mr. Smith's own writing. I have been unable to find the original description of this insect or any reference to it in Mr. Smith's papers; but the specimen labelled *bipartitus* is nothing more nor less than a large fine specimen of *peregrinus*. The species is very common in Sikkim, Burma, and Tenasserim; and I have a series of over a hundred specimens of both sexes which, *inter se*, show great variation in size.

Fam. Sphegidæ, Leach.

16. *Pelopæus violaceus*, Fabricius.

Sphex violacea, Fabr. Ent. Syst. ii. p. 201. 12.
Pepsis violaceus, Fabr. Syst. Piez. p. 211. 16.
Chalybion violaceum, Dahlb. Hym. Eur. i. p. 21. 1.

Chalybion bengalensis, Dahlb. Hym. Eur. i. p. 433. 2.

Pelopæus violaceus, Lepel. Hym. iii. p. 321. 21.

Pelopæus flebilis, Lepel. Hym. iii. p. 321. 22.

Pelopæus violaceus, Costa, Prosp. d. Imenott. Ital. fasc. i. p. 21. 6.

Pelopæus bengalensis, Smith, Cat. Hym. Ins. B. M. pt. iv. p. 230. 15; Journ. Linn. Soc. xi. (1867) p. 360. 19; Smith and Horne, Tr. Zool. Soc. vii. (1870) pt. iii. p. 163, pl. xxi. figs. 2, 2 a; Cam. Hym. Orient., Mem. & Proc. Manch. Lit. & Phil. Soc. ser. 4, vol. iv. pt. i. p. 11. 2.

One specimen in collection.

17. *Sphex maurus*, Smith.

Sphex maura, Smith, Cat. Hym. Ins. B. M. iv. p. 255. 61, ♀; Journ. Linn. Soc. xi. (1867) p. 361. 10.

Sphex maurus, Kohl. Termész. Füzetek, ii. P. 2^a, p. 199, ♂ ♀; Ann. d. k. k. Naturhist. Hofmus. v. p. 411. 102.

Sphex tyrannica, Bingham. (nec Smith) Journ. Bomb. Nat. Hist. Soc. v. (1890) p. 241. 13.

One male and five females in the collection, all of which are rather larger than the type described by Smith.

18. *Sphex morosus*, Smith.

Sphex morosa, Smith, Proc. Linn. Soc. v. (1861) p. 122. 7, ♂; Journ. Linn. Soc. xi. (1867) p. 362. 20.

Sphex morosus, Kohl. Ann. d. k. k. Naturhist. Hofmus. v. p. 448. 67.

One specimen in the collection (a female), which I provisionally identify with this species, though it differs both from the type and Smith's description in having the petiole and the first segment of the abdomen slightly reddish. In size, however, and in the colour of the wings and of the rest of the body, it agrees with both the type and the description of *S. morosa*.

Fam. Cerceridæ, Wesm.

19. *Cerceris vafra*, sp. n.

♀. L. 20 millim., exp. 38 millim.

Head, thorax, and the greater part of the abdomen black, the first, second, and third segments of the last variegated with red.

Head broad, broader than the thorax; the mandibles at the base above piceous, jet-black at the tips; the clypeus sparsely and finely punctured, with a very short elevated carina down the centre, not reaching the anterior margin; below the carina there is a small square spot, which is black and shining; the rest of the head and face finely and closely punctured; the antennæ black, opaque; the sides of the face

with silvery pile only observable in certain lights; the thorax closely punctured; the legs black; the inside of the tibiæ and tarsi of the anterior and posterior legs and the calcaria testaceous brown; wings fuscous, with a purple effulgence, hyaline at their base; abdomen closely and finely punctured, the first segment at base, and the second and third segments in the centre above black; the rest of these segments blood-red, the fourth and apical segments black.

One specimen in the collection. This species is closest to *C. sepulchralis*, Smith, from Borneo, but is very much larger, wants the yellow markings on the thorax, and has only the base of the abdomen variegated with red.

Fam. *Eumenidæ*, Westwood.

20. *Eumenes curvatus*, Saussure.

Eumenes curvatus, Sauss. Mon. Guêp. Sol. Suppl. p. 145. 38, t. viii. fig. 1.

Eumenes curvata, Smith, Cat. Hym. Ins. B. M. pt. v. p. 25. 33; Journ. Linn. Soc. xi. (1867) p. 372. 18.

One specimen in the collection.

Fam. *Vespidæ*, Stephen.

21. *Polistes philippensis*, Saussure.

Polistes philippensis, Sauss. Mon. Guêp. Soc. p. 58. 14, ♀; Smith, Cat. Hym. Ins. B. M. pt. v. p. 104. 19; Journ. Linn. Soc. xi. (1867) p. 381. 12.

Two specimens in the collection.

Fam. *Aulacidæ*, Shuck.

22. *Megischus coronator*, Fabricius.

Pimpla coronator, Fabr. Syst. Piez. p. 118. 28.

Megischus coronator, Brullé, Hym. iv. p. 538. 1; Westw. Trans. Ent. Soc. iii. p. 276. 2; Smith, Journ. Linn. Soc. xi. p. 399. 1.

One specimen in the collection.

Fam. *Ichneumonidæ*, Leach.

23. *Cryptus verticalis*, sp. n.

♀. L. 10 millim., exp. 21 millim.

Black, variegated with creamy white; the base of the posterior legs reddish brown. Head black; the clypeus transverse, slightly convex, its anterior margin arched; the

flagellum of the antennæ from the seventh to the thirteenth joint and the front and vertex of the head, except a rectangular black space enclosing the ocelli, creamy white, the back of the head emarginate; the thorax black; the pro- and mesonotum smooth and shining, the latter divided above by deeply impressed obliquely longitudinal lines into three sub-triangular portions; the scutellum prominent, convex; the metanotum opaque, very finely punctured; the tegulæ, two spots on the side beneath the wings, the scutellum, and the apical half of the metathorax creamy white; the wings hyaline, the nervures testaceous brown; legs, the anterior and intermediate coxæ, the tibiæ, and the last two joints of the tarsi of the posterior legs black; the trochanters of the anterior and intermediate legs on the outside and the three basal joints of the posterior tarsi white; the rest of the legs testaceous brown, on the posterior pair deepening to reddish brown; the abdomen black, very finely and closely punctured; the posterior margins of the first, second, and fourth, and the whole of the apical segment, white, the ovipositor black.

24. *Cryptus præpes*, sp. n.

♀. L. 10 millim., exp. 18 millim.

Ferruginous, the apical third of the antennæ and the eyes jet-black.

Head broad, as broad as the thorax, yellow, lighter in front and ferruginous towards the vertex; the mandibles yellow, black at the tips; the clypeus transverse and slightly convex; antennæ with their basal third ferruginous, the middle yellow and the apex black; thorax ferruginous, very finely punctured; the scutellum prominent; the metathorax posteriorly slightly rugose, with three slightly raised but well-marked longitudinal carinæ and a short obtuse tubercular spine on each side; the wings hyaline yellow, the nervures ferruginous; legs ferruginous, the anterior legs in front and the intermediate and posterior tarsi yellowish, the claws blackish; the abdomen ferruginous, finely punctured, beneath slightly paler, the ovipositor yellowish.

25. *Pimpla (Euxorides?) furcifer*, sp. n.

♂. L. 17 millim., exp. 30 millim.

Black, variegated with white; the wings hyaline; the anterior and intermediate legs white, the posterior pair black, variegated with white and testaceous brown.

Head black, smooth, emarginate behind; cheeks rather swollen; the clypeus, mandibles, and front of the scape of the

antennæ testaceous brown; the palpi white; the flagellum of the antennæ black, with the eighth to the sixteenth joints pure white; thorax black; the tegulæ, the scutellum (which is prominent and convex), and an oblique stripe and two spots under the base of the wings white; the mesothorax smooth and shining, with two oblique longitudinally impressed lines above; the metanotum opaque, coarsely punctured, gently declivous to the apex, and covered with a thin griseous pubescence, its apex ending in obtuse, rather prominent lateral tubercles; wings hyaline, the nervures brown; the anterior legs white, the four apical joints of their tarsi black; the intermediate legs white, the outside of the trochanters and a stripe on the inside of the tibiæ black; the posterior legs testaceous brown, white on the tarsi, their femora at the base, the greater part of the tibiæ, and the three apical joints with the claws of the tarsi black, the calcaria white; abdomen black, smooth and shining, its base and the posterior margins of all the segments except the sixth white, the apical segment entirely white.

The three species of ichneumons sent by Mr. Whitehead were all, so far as I have been able to make out, previously undescribed.

Fam. *Braconidæ*, Westwood.

26. *Bracon deceptor*, Smith.

Bracon deceptor, Smith, Proc. Linn. Soc. v. (1861) p. 65. 1, ♀; Journ. Linn. Soc. xi. (1867) p. 408. 37.

Four specimens in the collection.

Fam. *Tenthredinidæ*, Leach.

27. *Senoclia albocærulea*, sp. n.

♂. L. 11 millim., exp. 24 millim.

Deep blue, the posterior portion of the thorax white; wings hyaline, infuscated at apex; legs white, with black markings.

Head and thorax deep blue, shining and pubescent; the clypeus, scutellum, and posterior portion of the thorax white; antennæ black, covered with long depressed hairs; wings hyaline for half their length from base, fuscous beyond, the anterior wings darker than the posterior; legs black, variegated with white; abdomen deep blue and shining, with short scattered pubescence.

Resembles *S. cærulea*, Cameron, from Ceylon, but differs in having the posterior portion of the thorax from the scutellum white.